

Montgomery County Deer Management Program



Annual Report and Recommendations Fiscal Year 2015

Prepared by
Montgomery County Deer Management Work Group
Rob Gibbs, Chair
September 2014

The Montgomery County Deer Management Work Group

Maryland Department of Natural Resources Wildlife and Heritage Service,
M-NCPPC, Department of Parks Montgomery County
Montgomery Soil Conservation District
Montgomery County Police Department
U. S. National Park Service
Washington Suburban Sanitary Commission

This page intentionally blank

Attachment B

Preface – The state of Deer Management in Montgomery County June 2014

As we begin the 20th year of the County's Deer Management Program it seems a fitting time to give a brief overview on the state of the program and where things need to go from here to accomplish our deer management goals.

The Good

Over the past 19 years efforts have been made to educate the public on ways to reduce deer impacts including deer-vehicle collisions (DVCs), damage to crops, gardens, home landscaping and Lyme disease. In addition, deer population management has been initiated in most of the larger parcels of M-NCPPC owned parkland, nearly all State Parkland, most of the property owned by the Washington Suburban Sanitary Commission (WSSC) and several other publicly owned properties (figure 2, page 13). In total, nearly 30,000 acres of public land are now being managed for deer compared to 5,500 acres before the program started. On average deer populations have been reduced by over 59% where management is occurring with some parks seeing reduction of 84% to 89%. Populations in some cases have gone from well over 200 deer per square mile to a more acceptable level of around 30 per square mile or less. Other positive results have been seen in Deer vehicle collisions (DVCs) around these parks. The average number of DVCs per square mile in 2013 within ¼ mile of parkland is 10.9 for parks with no deer management and only 3.4 for parks where population management is being conducted. That is an average reduction of 69%. Other program accomplishments are listed on page 5 of this report and include a lot of non-lethal and educational efforts to increase public awareness and tolerance of deer.

The Not So Good

Deer are not great travelers; most deer will live their entire life within an area about one square mile in size. This limits the impact that population management in parks alone can have in reducing deer populations much more than a quarter to a half-mile from the park. Away from the currently managed properties, deer populations and impacts have continued to increase in our smaller parks, and on private land, much of it within neighborhoods often over a half mile from larger parcels of parkland. Deer vehicle collisions countywide have continued to slowly rise since 2008 despite reduced accidents around managed parkland.

Deer require food, water and shelter which they can find in abundance in nearly any neighborhood - note the picture on the cover of this report taken at a condominium complex in Chevy Chase. These urban areas are very difficult and in some cases impossible to manage with current methods and regulations and more importantly, unlike on public lands, there is no one entity that can effectively implement the management.

Reported cases of Lyme disease continue to increase, however, it is unclear if this is a true increase in the spread of the disease or more related to a higher level of awareness resulting from efforts to educate citizens and physicians. The link between deer populations and the disease is not clear. Deer are involved in the complex life cycle of the black-legged tick which transmits the disease; however, the ticks pick up the disease from mice and chipmunks not deer. Reducing deer numbers does not necessarily produce a correlated reduction in the number of cases. There are a couple of products available to reduce the number of ticks that carry the disease that are currently little used. These products are discussed in this report under the section on Lyme disease and in our recommendations.

A Turning Point

A few additional large parks, including the C & O Canal National Historical Park, several County parks, and a few other large public properties such as golf courses, future school sites and others have the potential for deer population management once necessary access or legal hurdles have been overcome. Most of the remaining public lands in the County, however, are very narrow and current regulations greatly restrict traditional management tools. New methods including archery might expand parkland management somewhat but at best this will still leave most of the developed portions of the county, 80% of which is private land, unmanaged.

Up to this point the majority of deer population management countywide, with the exception of the parks' sharpshooting program, has depended on the enthusiasm, time, effort and skill of the hunting public. These citizens choose to spend their leisure time in pursuit of a sport they enjoy and in doing so have provided a great service to the county. However, there is a limit to the legal locations in which they are permitted to hunt. The recent change to the safety zone for archery hunting from 150 yards to 100 yards from a house will provide a small opportunity for increased deer population management by archery hunters in suburban areas. Additional archery hunting can also

occur where enough neighbors can agree to give the needed permission for hunting closer to a home. This can require considerable coordination within a community and/or a willingness on the part of the hunter to acquire letters of permission from sometimes dozens of homeowners. Often one neighbor objecting can reduce hunter efficiency or prohibit management altogether.

The County deer program has made great progress since it was initiated, but continued forward progress will require a paradigm shift. The leadership role for expanding countywide management, now held by the M-NCPPC Department of Parks, will decline as most public lands come under management and will need to shift to other entities, as yet unidentified, better situated to implement and fund traditional and nontraditional management on private property.

Key issues that need to be addressed include:

- 1) Changing regulations that currently limit where population management can be initiated – The recent change in the safety zone for archery hunting is one example of this, another might be revising safety zones for highly specialized sharpshooting operations that currently match those for basic hunting.
- 2) Finding innovative ways of increasing access to both public and private land by hunters and/or professional managers including parks staff or private contractors - Access to land, especially private property, is the most limiting factor to current population management efforts.
- 3) Developing additional funding sources for population management efforts on private land within residential communities and adjacent parkland –The cost of population management increases greatly as the density of housing increases and most communities do not have the resources or organizational infrastructure to development and implement management where traditional hunting is not appropriate or possible.
- 4) An increased focus on Lyme disease that includes additional support for the study of tick populations and control methods aimed at reducing ticks where high populations of ticks are identified, and continued efforts through the Department of Health and Human Services to educate the public and the medical community about the disease, its prevention, diagnosis and treatment.
- 5) Most importantly, a continued and redoubled emphasis on public education about deer, deer management, and what citizens can do to reduce deer impacts in their lives. This includes how to drive in deer country, how to protect home landscapes and gardens from excessive deer damage, how to effectively manage deer on your land if you are a farmer or other large land owner, and how to protect yourself and your family from the threat of Lyme disease. As has been the case since the program started, there needs to be recognition that deer have a place in the county and while there is a need for population management where deer numbers are high, there is also a need for coexistence. Conversely there needs to be an understanding that where deer populations are high it is to the benefit of all, including the deer, that population management be carried out to keep numbers in balance with the environment and available food, and to protect our natural areas, crops, home landscapes, and the health and safety of our citizens.

The Maryland Department of Natural Resources (DNR), as the regulatory authority for wildlife management in Maryland, has played a critical role in our successful management to this point and will likely need to expand its role to guide the development, implementation and regulation of new approaches. The Deer Management Work Group (DMWG) will also remain a vital part of deer management as it works closely with DNR to explore and promote new, safe and effective management strategies to meet our deer management goals.

Montgomery County Deer Management Program Annual Report and Recommendations Fiscal Year 2015

Introduction

The Comprehensive Management Plan For White-tailed Deer in Montgomery County, MD. (Montgomery County Deer Management Work Group, 1995) calls for the Montgomery County Deer Management Work Group (DMWG), on an annual basis, to review deer-impact data and present a list of recommendations for the upcoming year. Recommendations are submitted to and implemented by County, State and Federal agencies and private landowners as appropriate.

This report briefly reviews the current status of the County's Deer Management Program, makes recommendations for Fiscal Year (FY) 2015 (July 1, 2014 to June 30, 2015) and describes the rationale upon which these recommendations are based.

Information on all aspects of the County's Deer Management Program is available on the Internet at www.ParksDeerManagement.org/. The website includes data from past years on deer-vehicle collisions, impacts to natural ecosystems, damage to agricultural crops, local deer populations and other pertinent information about the program including locations and application procedures for managed hunts on M-NCPPC Parkland. Comments and specific questions regarding this report can be addressed to Rob Gibbs at Rob.gibbs@montgomeryparks.org / 301-962-1341 or Bill Hamilton at Bill.hamilton@montgomeryparks.org / 301-962-1342.

Citizen Notification and Comment Periods for Proposed Deer Management on County Parkland

Public input is solicited prior to the implementation of any new population management on M-NCPPC Parkland. M-NCPPC will publicize information on any new proposals through press releases to local newspapers, other news media and the Internet. Following these public announcements there will be a comment period during which citizens can submit comments through the mail, or e-mail. While some public meetings may be held in areas where management is expected to be very controversial, it is felt that use of the internet and public media provides greater and more convenient opportunities for citizens to learn about and comment on deer population management actions that are proposed on parkland throughout the county. Information will be provided at www.ParksDeerManagement.org/. Once management actions have been implemented, it should be understood that they will continue annually.

Goal and Objectives

The goal of Montgomery County's deer management program is to reduce deer-human conflicts to a level that is compatible with human priorities and land uses. The deer management plan lists four objectives for attaining this goal.

1. Reduce deer-vehicle collisions (DVCs) on a countywide basis.
2. Reduce depredation on agricultural crops and home landscapes to levels acceptable to county residents.
3. Reduce negative impacts of deer on natural communities to preserve native plant and animal diversity.
4. Continue a countywide education program to provide residents with information on deer, deer problems and how to minimize or prevent deer-human conflicts.

Overview of Deer Management Program

The Deer Management Program has been in operation since 1995. During the past 19 years many deer management actions have been implemented and progress has been made in addressing many of the negative impacts associated with high deer populations. The following sections outline the actions and accomplishments of the program to date and the current status of the various deer impacts including problems that still need attention. For those interested in additional data related to the program visit www.ParksDeerManagement.org and click on "Deer Plans & reports" and then "Deer Data 1996-2011"

Deer Program Accomplishments

FY2014

- M-NCPPC, MD DNR and other DMWG members participated in educational workshops and other deer management related efforts to assist communities and private landowners in addressing deer impacts.
- In response to requests and complaints from the local community the DMWG recommended and M-NCPPC Department of Parks implemented deer population management in Cabin John Regional Park. The program was conducted by specially trained Park Police sharpshooters along with Park wildlife staff. The program was successful with 63 deer harvested and will be continued in FY2015.
- Maryland State legislation was passed reducing the safety zone for archery hunting in Montgomery County from 150 yards to 100 yards in order to provide more opportunity to manage deer populations in the urban zone. The County Council made appropriate adjustments to county firearm regulations to match this new change.
- The M-NCPPC continued its deer population management program in 22 parks adding the one new location mentioned above and covering over 15,800 acres.
- The Washington Suburban Sanitary Commission (WSSC) continued to expand its deer population management on WSSC lands in the County.
- Virtually all State land under the management of the Maryland Department of Natural Resources continues to have deer population management conducted.

Other Deer Management Actions Implemented to Date

- A comprehensive educational program on deer, their impacts and remedial methods including: informational brochures and publications, library materials, phone numbers for help, the seasonal use of Public Service Announcements about deer-vehicle collisions, local Cable TV Programs on deer management in the county, programs on deer through County nature centers.
- The DMWG working with other local government agencies through the Council of Governments (COG) completed and released an educational video on preventing Deer-vehicle collisions (DVCs). This program began being aired on Montgomery Cable TV during the peak seasons for deer vehicle collisions and is available for use in local government and private driver education programs.
- County deer information is available online at www.ParksDeerManagement.org
- A successful program of workshops for homeowners on protecting their property from deer damage has been operated since 1995. Over 2000 county residents and landscape professionals have attended. Community groups can schedule a program by calling 301-962-1342.
- Wildlife reflector systems and experimental warning signs were tested at eight locations along County roads identified as having high numbers of deer-vehicle collisions (DVCs). These signs have proven to have no effect in reducing DVCs and are no longer being used.
- Improved methods to collect data for deer-vehicle collisions and other impacts using GIS system mapping.
- Program to identify and monitor impacts to natural vegetation on M-NCPPC Parkland.
- Cooperative County and State efforts to better address DVC through roadway design.
- Cooperative effort with M-NCPPC Transportation Planning Office to review projects that include bridges that cross wildlife corridors in order to allow for safe passage of wildlife under roadways.
- Cooperative effort with Washington Area Council of Governments (COG) to reduce DVCs regionally.
- Cooperative effort with County and State park officials to initiate deer population management in parks where high deer populations were contributing to high numbers of DVCs, and other impacts.
- Cooperative effort with MD Department of Natural Resources to adjust hunting regulations to help increase antlerless deer harvest in order to reduce deer populations in areas open to hunting.

- Changes were made to County Code in early 2003 to allow for use of 8-foot deer fencing in residential side and backyards and all types of fencing on agricultural properties.
- The Department of Economic Development (DED), working closely with the DMWG, conducted a successful workshop for Agricultural growers in 2004 on implementing effective deer population management program. DED continues to work with farmers to reduce deer damage to crops
- The DED, working closely with area farmers, has established two refrigerated storage facilities – one in Poolesville and the other near Laytonsville - to facilitate the ability of farmers to better manage deer on their property and donate the meat to charity. This program is paid for by DED.
- M-NCPPC initiated a workshop in 2007 of local and regional government agencies and wildlife experts, who are currently conducting deer population management in this and other regions, to assess the state of the art of this work and develop new strategies for addressing non-traditional deer population management in suburban settings.
- In late 2007 changes were made to County Code firearms regulations related to hunting to better match state regulations and facilitate deer management on private land.
- A Lyme Disease Awareness Task Force in 2008 developed a citizen awareness program to promote better understand of the disease, its causes and prevention including educational materials, a website, educational signage in park areas and two episodes of the County Cable TV show, “Rural Montgomery County”.

Deer-vehicle Collisions

The number of Deer-vehicle Collisions (DVCs) countywide as reported by the Montgomery County Police Department for 2013 was 2,146 (see table 1 and figure 1). This is slightly higher than the previous high of 2,127 that occurred in 2002. Overall, DVCs have risen very slowly since hitting a low of 1,841 in 2008.

Table 1. Deer-vehicle Collision Data 1994 - 2013

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1,343	1,244	1,776	1,705	1,774	1,891	2,033	2,003	2,127	2,047	1,997	1,969	1,951	1,867	1,841	1,945	1,930	2,038	2,019	2,146

Data on DVCs are collected and maintained by the Montgomery County Police Department.

Several approaches have been taken to reduce DVCs countywide including education, use of signage, structural design (e.g. designing bridges and fencing where possible to keep deer off roadways; see “Deer Program Accomplishments” above) and Deer Population Management (see that section below).

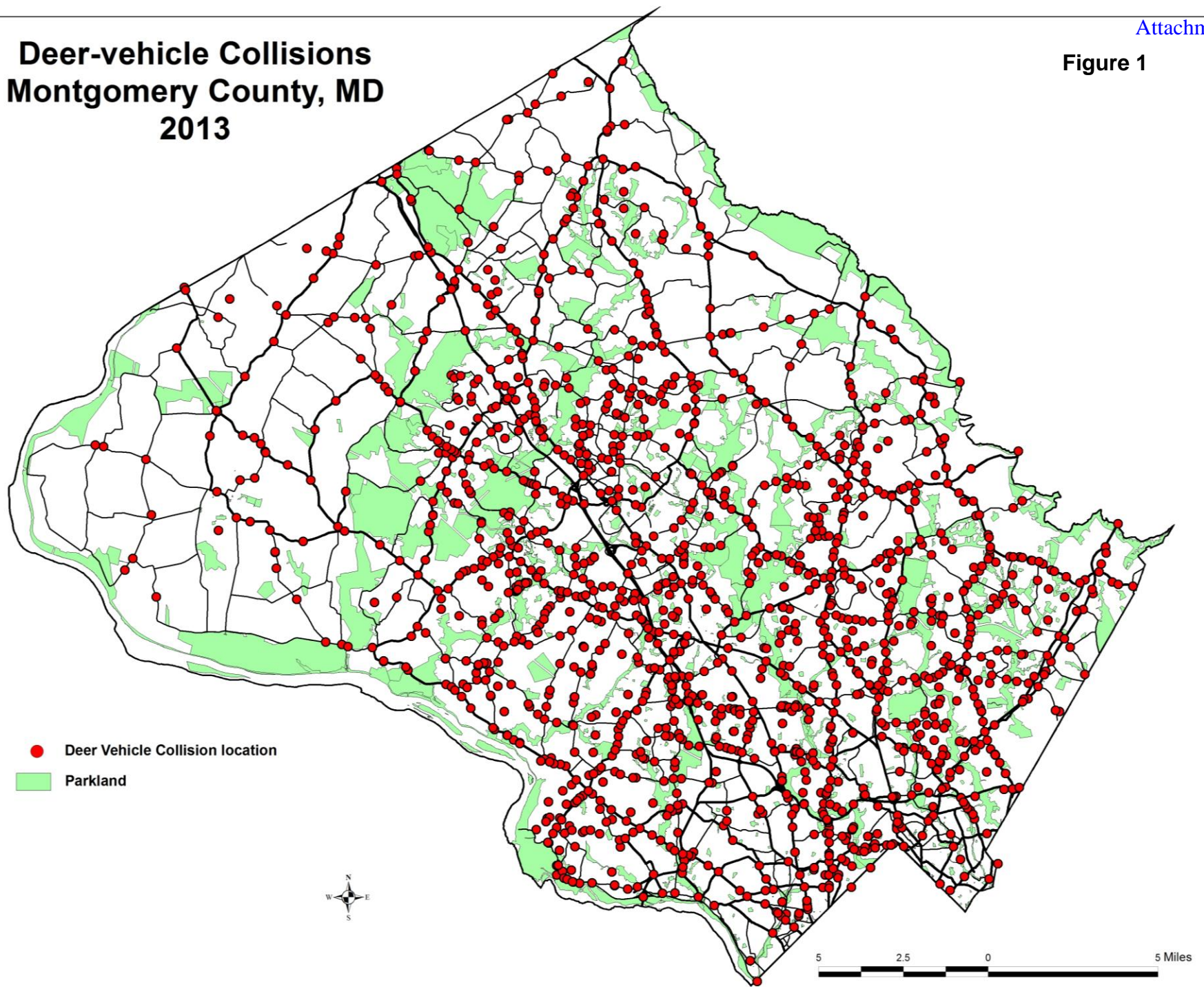
Between 1996 and 2002, Montgomery County Police analyzed DVC data on roads surrounding several parks where deer population management was conducted. In each case, data showed a significant and sometimes dramatic decline in DVCs as deer populations were reduced. More recent DVC data shows that the average number of DVCs per square mile in 2013 within ¼ mile of parkland was 10.9 for parks with no deer management and only 3.4 for parks where population management is being conducted. That is an average reduction of 69% where management is taking place. This would indicate that it is important to continue to expand deer management into areas where DVCs continue to be high or are increasing.

Expansion of deer population management poses considerable challenges. Many of these areas do not contain county parkland on which to conduct deer management. In areas where parkland is present, it is often comprised of narrow stream valley parks surrounded by dense development making deer population management much more difficult and in some cases impossible under current State restrictions and using current methods. New and innovative approaches to deer population reduction are needed to address these areas. Changes to regulations and other restrictions will likely be required as well.

Management efforts continue to be implemented into new areas where possible. However, until new methods can be approved and deployed, DVC numbers are expected to continue a slow upward trend as deer continue to increase in areas where management is not currently practicable.

Figure 1

Deer-vehicle Collisions Montgomery County, MD 2013



Agricultural Damage

In 2004 the County's agricultural community declared that deer overpopulation was the number-one threat to farming in the County. Consequently, agricultural damage has been a particular focus of the DMWG's recommendations and continues to be an important concern. The nationally acclaimed Agricultural Reserve is an important component of the County's General Plan. It helps maintain protected farmland for future food and fiber as well as provide open space that contributes to the county's character and quality of life. The existence of the Agricultural Reserve depends on the continued viability of agriculture.

A 2004 survey of County farmers indicated significant losses to agricultural crops due to deer browse. Thirty-six (36) farmers reported losses on corn, soybeans, wheat and hay. Thirty-four (34) producers reported losses on tree fruit, small fruit or vegetables. Twenty-seven (27) producers suffered losses on nursery, Christmas trees, grapes and other agricultural crops. In all, over 2000 acres of agricultural land has been removed from production due to deer crop damage and 2/3 of survey respondents believed crop damage from deer was on the increase. In May of 2014 an updated Deer Damage Survey was initiated, the results of which will be available in FY15.

Farmers are using a variety of strategies to attempt to minimize damage to their crops. Thirty-seven (37) of the survey respondents have used fencing and/or cages around tree trunks to prevent rubbing damage. The farmers generally report fencing as being effective in limiting damage to crops but at a significant cost to the individual farmer. Thirty-two (32) reported using deer repellents with very limited success. Nine (9) farmers were using scare tactics other than having dogs (i.e. noisemaking devices, motion activated lights, etc.). Forty-seven (47) have used dogs as deterrent with most indicating some success with this method. Deer control methods that rely on live dogs or noise making devices can be bothersome to neighbors. Possible effects on neighboring properties must be considered when exploring options for deer management.

Over 100 landowners allowed hunting and/or used crop damage permits in an effort to control deer populations. Many feel higher deer harvest will help limit crop damage.

The 2011 Wildlife Damage Survey conducted by Maryland Agricultural Statistics Service indicated central Maryland farmers had sustained estimated losses of over \$4.3 million due to deer browse. The central Maryland area includes Montgomery, Baltimore, Carroll, Frederick, Harford, Howard and Washington Counties. Damage in the central Maryland region is reported to be much higher than in other areas. It should be noted that higher crop prices can result in increased economic losses even if actual amount of crop damage remains unchanged. Crop damage losses on corn and soybeans exceeded \$800,000 in 2009 with just a 5% crop loss across the entire crop. Field losses can range as high as 50 % in some areas. Some deer damage occurs in almost every field and on almost every crop. Overall, deer damage does not appear to have declined significantly despite more aggressive population control measures on both public and private land.

Deer Donation Program

The County's Deer Donation Program has expanded since it was initiated in 2004 (table 2). Administered through the Department of Economic Development – Agricultural Services Division and operated by members of the local agricultural community, this program enables farmers and hunters to harvest additional deer beyond what they need for personal use and donate the meat to a good cause. The number of deer donated increased from 2004 to 2011. For the past two years the number of deer being donated has dropped. One likely cause is that the recession is causing hunters to keep more deer for their own use and to share with neighbors and family, leaving less meat to be donated. The 152 deer donated last year provided nearly 6,080 pounds of meat donated to the Charitable Food organizations in the County.

By accepting extra or unwanted deer, the Deer Donation program has allowed some farmers to develop much more focused and effective hunting operations. Members of the agricultural community are now working more closely with their hunters to insure that more deer are being harvested. The Patriot Land and Wildlife Management Company, which provides management assistance for the donation program, has sponsored a Deer Donation Contest for the past three years to encourage hunters to harvest more deer. Some property owners have initiated organized one or two day hunts using groups of hunters to increase the harvest success

and reduce deer numbers on their farms. The Deer Donation program facilitates these practices by providing an outlet for a large number of deer harvested at one time.

Table 2. Number of Deer and Pounds of Meat donated through the Deer Donation Program 2004 - 2013

<i>Deer Donation Program - Deer Collected and Pounds of Venison Donated</i>		
2004-2005 Season	39 deer	1,560 pounds
2005-2006 Season	51 deer	2,040 pounds
2006-2007 Season	85 deer	3,400 pounds
2007-2008 Season	197 deer	7,880 pounds
2008-2009 Season	150 deer	6,000 pounds
2009-2010 Season	304 deer	12,160 pounds
2010-2011 Season	403 deer	16,120 pounds
2011-2012 Season	222 deer	8,880 pounds
2012-2013 Season	163 deer	6,520 pounds
2013-2014 Season	152 deer	6,080 pounds
Totals	1,766 deer	70,640 pounds

More information on the Deer Donation program is available on the County website at:

<http://www.montgomerycountymd.gov/AgServices/aginitiatives.html#deer>

The Deer Donation Program has invested \$180,000 over nine years. The value of the program is calculated to be \$680,060. This is based on the value of the meat collected (**70,640** lbs at \$2/lb) and the value of the commodity grain in the farmer's fields not consumed by these deer. **1,766** deer harvested, 2,000 lbs of grain saved for each deer harvested, average value of all commodity grain estimated at \$9/bushel).

Many changes have been made to State and local regulations and educational programs have been offered to citizens and communities in recent years aimed at helping the agricultural community reduce deer damage to their products. These efforts have made an impact, but crop damage by deer remains a problem for local farmers.

Impacts to Home Gardens and Landscaping

Many residents are experiencing impacts to home gardens and landscaping. Though much work remains to be done, citizens are taking advantage of the educational materials, workshops, and regulation changes that have been made to help reduce impacts to home landscapes.

Complaint calls remained steady in the past couple of years coming mostly from more urban areas in the County including: lower Rock Creek Stream Valley, Sligo Creek Stream Valley, the Paint Branch/Colesville area, Potomac, Rockville, Derwood, Quince Orchard and Olney. Most come from fairly densely populated areas surrounding narrow strips of parkland and increasingly from areas with few parks but where well forested housing lots provide habitat for deer herds.

As mentioned elsewhere in this report, these areas pose a challenge to safe deer population management. Recently initiated population management efforts in Sligo and Rock Creek Stream Valley Parks have been successful in the small areas within these narrow, linear parks where sharpshooting can be implemented. These operations have helped extend our experience in more urban areas, however, the vast majority of these and other urban parks cannot be managed using current methods, and under current guidelines and regulations. New methods of addressing other highly developed areas continue to be explored.

Homeowners experiencing deer damage can call for information and to register their complaint at 301-962-1342/1344. Homeowner/Community Associations and other community organizations that would like a free workshop on controlling deer damage around the home can call 301-590-9650 or 301-962-1342. The Maryland

DNR webpage lists various deer management options available to homeowners and communities at www.dnr.state.md.us/wildlife/Hunt_Trap/deer/deer_damage/ddmtintro.asp. Links to additional information specific to deer management in Montgomery County (e.g., County fencing regulations, firearms restriction regulations, the county's cool box program for farmers, information on Lyme disease, tips for driving in deer country and other relevant information can be found at www.ParksDeerManagement.org.

Impacts to Natural Communities

An overabundance of deer can have a profound impact on native vegetation and habitat for other wildlife. Park studies and observations have shown that where deer populations are high forest trees are not reproducing, the park understory of shrubs and wildflowers is severely reduced and rare plants are declining and in many parks have disappeared due to deer feeding habits. Other studies have shown that other species, especially forest birds and small mammals, decline as both food and cover is heavily impacted by deer browsing. The only way to reduce damage to natural communities is to reduce deer populations within park areas. The Department has undertaken an aggressive program of deer population management – see section below titled “Deer population Management” for more details on this effort.

Even after deer populations have been reduced, recovery of vegetation may occur slowly over many years. Current staffing and funding has not permitted detailed studies to quantify the extent of vegetative recovery in parks where management is taking place. However, general observation by long-time naturalists and other qualitative information strongly suggest that understory vegetation and tree survival is increasing where deer populations have been reduced. A number of species, including some orchids and lilies that had not been seen for years are now blooming again as well, though in limited numbers. As discussed below under “Deer Population Management,” deer reductions are fairly local and new management techniques will be required to address impacts to the smaller, more urban park areas in the County.

Educational Program

Education is a cornerstone of the Countywide Deer Management Program. In order to achieve the deer plan's goal of reducing deer impacts to acceptable levels, two things must happen, 1) Deer populations must be managed – see more on this throughout this report and 2) just as importantly, County residents must become educated in how to live with deer and how to minimize the negative impacts associated with deer. A long list of educational efforts is described under “Deer Program Accomplishments” and includes: homeowner workshops, brochures, educational programs at Nature Centers and on County Cable Television, a DVD on avoiding deer-vehicle collisions, regular public service announcements and talks for citizen groups. As citizens become more educated on ways to reduce deer impacts and begin to put this education into practice (e.g. adopt driving habits that help avoid deer-vehicle collisions, or use different methods to protect their home landscaping or farm crops) they will reduce deer impacts and raise their tolerance for deer in the landscape. A good place to begin learning about this issue is to visit our website at www.ParksDeerManagement.org.

Lyme Disease

Lyme disease is a bacterial illness transmitted through the bite of the Black-legged tick. Early symptoms range from flu-like headache, fever, and general fatigue to joint and muscle pain. A circular rash may occur in 70-90% of individuals. If left untreated, the disease can become chronic and debilitating. Lyme disease continues to be a growing concern in the county.

While Lyme disease is often linked to deer management in the mind of the public because it is transferred through the bite of the so-called deer tick (the new accepted name is the black-legged tick), it is widely accepted that reducing deer numbers cannot effectively control the spread of the disease. Black-legged ticks feed on many species of mammals and birds and most often pick up the disease by feeding on infected mice and chipmunks, not deer. For these reasons, Lyme disease is best viewed as a public health issue.

The Montgomery County Department of Health and Human Services (HHS) tracks cases of Lyme disease and provides education for the public and health professionals in the County. The number of positive lab reports for

Lyme disease sent to MCDHHS Disease Control Program continues to increase. The true number of cases (confirmed and probable) for 2013 is not determined due to a decrease in staff. In 2012, there were 303 cases (confirmed and probable) and 148 suspect. The increase in lab tests being done is an indication that the medical community is more aware of the symptoms of Lyme disease and labs are being ordered more often to assist in diagnosis. Due to budget cuts, we are unable to investigate all positive lab slips that are reported to Disease Control.

Education to the medical community is key to increasing diagnosis and early treatment for Lyme disease. When caught early, Lyme disease is usually easily treated with antibiotics. The disease, however, can be difficult to diagnose because many tests are unreliable and the symptoms resemble those of other ailments including the flu and arthritis. Some in the medical community feel that when left untreated, Lyme disease can become chronic resulting in long-lasting and debilitating health problems. This most often results when it is not diagnosed and treatment is delayed for an extended period of time. The increased education efforts directed at the public and doctors should help ensure that the disease is detected and treated more quickly.

Additional efforts by the Department of Health and Human Services to address Lyme disease include:

- Presentations in the community and distribution of literature on Lyme Disease prevention
- Counseling of individual patients on prevention
- Surveillance on positive lab slips to identify true cases
- Referrals to physicians for diagnosis and treatment
- Education of community physicians on Lyme Disease diagnosis and treatment

Montgomery County promotes personal protection from ticks and awareness of the symptoms of the illness as the best defense against Lyme disease. General information is available at:

- The Montgomery County Department of Health and Human Services - www.montgomerycountymd.gov/lymedisease or 240-777-1755
- The Centers for Disease Control – www.cdc.gov.
- The Lyme Disease Foundation - www.lyme.org; 24 hour information line at 800-886-5963.
- The National Capital Lyme and Tick-Borne Disease Association has information and offers local support groups - www.natcaplyme.org or (703) 821-8833.
- The American Lyme Disease Foundation, www.aldf.com/fourPoster.shtml - has information on a product to help reduce the number of ticks in an area called the four poster feeder.

The state of Connecticut has put out a manual with information on how to reduce ticks around the home - http://www.ct.gov/caes/lib/caes/documents/special_features/tickhandbook.pdf. It discusses a variety of methods ranging from how to landscape your yard to the use of various products including pesticide applications to lawns and more targeted approaches including the Tick Control System - www.tickboxtcs.com and Damminix Tick Tubes - www.ticktubes.com.

Deer Population Management

Management of deer populations depends largely on managing the number of reproducing females in the population. DNR has significantly liberalized the harvest or bag limits for antlerless deer over the past 19 years to promote the harvest of female deer in an effort to limit population growth. Based on trends in deer hunting harvest data for the county, DNR believes that deer populations are stabilizing within areas of the county where hunting occurs. However, much of the County has only limited hunting opportunities due to development density and weapons discharge restrictions. Deer populations in these areas are likely increasing. DNR notes that as urbanization of the county continues, regulating the deer population will become even more difficult, as lethal management via hunting often is not an option in urban and suburban settings.

Several strategies have been taken over the past 19 years to help reduce deer populations in areas where traditional hunting is limited, including parkland and suburban/urban areas. These include managed hunts on State and County parkland, property managed by the Washington Suburban Sanitary Commission (WSSC), and

property managed by Montgomery County Department of Solid Waste. Sharpshooting (shooting of deer at night by specially trained marksman under very safe conditions) is being employed in some county parks where hunting is not possible. Regulation changes to facilitate population management on private properties include, changes to County weapons laws as well as State hunting regulations.

Deer population management was conducted on 30 parcels of public land in FY13 totaling nearly 30,000 acres. These included 22 County parks, 3 state park and wildlife management areas, 1 federal facility, WSSC property and one parcel of non-park County property. Population management efforts are now in place on most large parcels of public parkland in the county (see figure 2 and table 3). Populations are being reduced and associated deer impacts are declining. However, due to the small home range of deer, the effects of these efforts may remain localized. Outside of these areas deer populations likely remain high or are increasing due to lack of population controls and continued development that concentrates deer into smaller and smaller areas. In many cases deer are adapting to living completely within suburban landscapes.

Many acres of parkland in narrow stream valleys, small local parks, and in highly populated areas are not currently being managed. Effective deer population management in these smaller urban areas can be very difficult, costly, and in some cases not feasible at all. Efforts to explore new methods to address these locations continue.

Table 4 illustrates how much the County's Deer Program contributed to the overall management of deer populations in the county last year. Over 23 % of the total deer harvest in the county is directly associated with management efforts initiated or recommended by the County's program. Because managing female or antlerless deer is so critical to reducing populations, the county program focuses on antlerless harvest and as a result nearly 27% of the countywide antlerless harvest comes from hunts associated with the program.

As more and more public land comes under management, deer on private lands represent an increasing portion of the population causing negative impacts countywide. Managing deer populations on private properties therefore becomes an increasingly important part of countywide management efforts. Despite liberalized bag limits and regulations that have increased the hunting of antlerless deer, the DMWG believes that many parcels of privately owned land are not being hunted efficiently enough to significantly reduce deer numbers. Educational efforts targeting both landowners and hunters in more effective management techniques will be continued. As already mentioned, population management becomes more difficult as you move from rural to more suburban and urban parts of the county. Nevertheless, there are opportunities for some communities to manage deer populations within their neighborhoods where the community can reach agreement on the methods.

Deer Population Management by Communities

A number of communities have embarked on their own management efforts. Where large lots exist or neighbors can reach agreement, and state distance requirements can be met, archery hunting can be implemented on private property to reduce deer numbers. Archery hunters must be a minimum of 100 yards from any occupied dwelling or have permission from the homeowner to hunt. As a result, the ability to implement such a program is limited in the more densely populated sections of the County. Several hunting organizations offer hunting services free of charge.

As deer impacts continue to expand into areas that are not accessible for County sponsored management, other options, such as community based management may need to be explored more fully. For the time being, these programs are very limited in application.

For assistance in developing community deer management plans contact the Maryland Department of Natural Resources at 301-432-4307.

Figure 2



Table 3. Public Land with Current or Proposed Deer Population Management Programs – See Map 2

	Park Area	FY initiated	Recommended Action/Comment
1	Patuxent River State Park	Prior to 1994	Continue population mgt
2	McKee-beshers Wildlife Mgt Area	Prior to 1994	Continue population mgt
3	Dickerson Conservation Park	Prior to 1994	Continue population mgt
4	Nat Institute of Standards and Tech.	1994	Continue population mgt
5	Seneca Creek State Park	1997	Continue population mgt
6	Little Bennett Reg. Park	1997	Continue population mgt
7	Ag/History Farm Park	1997	Continue population mgt
8	WSSC Reservoirs	1999	Continue population mgt
9	Black Hill Regional Park	2001	Continue population mgt
10	Northbranch SVP	2001	Continue population mgt
11	Rachel Carson Cons. Park	2002	Continue population mgt
12	Rock Creek Regional Park	2002	Continue population mgt
13	Goshen Recreational Park	2002	Continue population mgt
14	Rock Creek Golf Course	2002 to '06; 2011	Continue population mgt
15	Blockhouse Point Cons. Park	2003	Continue population mgt
16	NW Branch Recreation Park	2004	Continue population mgt
17	Bucklodge Forest Cons Park	2004	Continue population mgt
18	Hoyles Mill Cons. Park	2004	Continue population mgt
19	White Oak Federal Facility*	2004	Continue lethal population mgt/ Monitor contraceptive results.
20	Woodlawn Special Park	2004	Continue population mgt
21	Northwest Branch Golf Course	2004 to '06; 2011	Continue population mgt
22	Woodstock Special Park	2005	Continue population mgt
23	Little Seneca SVP unit 1	2005	Continue population mgt
24	North Germantown Greenway Park	2006	Continue population mgt
25	Great Seneca Stream Valley Unit 2	2006	Continue population mgt
26	Wheaton Regional Park	2006	Continue population mgt
27	Rock Creek Stream Valley Unit 7	2008	Continue population mgt
28	DSWS Property in Dickerson	2011	Continue population mgt
29	North Branch Stream Valley Unit 4	2011	Continue population mgt
30	Sligo Creek Stream Valley Unit 4,5	2012	Continue population mgt
31	Rock Creek Stream Valley Unit 2	2013	Continue population mgt
32	Cabin John Regional and SV parks	2014	Continue population mgt
33	Schaefer Rd Expansion of Hoyles Mill CP	Initiate in FY15	Initiate in FY15
34	Red Door Special Park	Initiate in FY15	Initiate in FY15
35	Paint Branch Stream Valley Units 5&6, including: Pilgrim Hills Local Park, Tamarack Neighborhood Park, Valley Mill Special Park, and Paint Branch Neighborhood Park	Initiate in FY15	Initiate in FY15
36	Martin Luther King Recreational Park	Initiate in FY15	Initiate in FY15
37	Muddy Branch Stream Valley Park	Future	Investigate for future mgt
38	Serpentine Barrens Conservation Park	Future	Investigate for future mgt
39	Upper Paint Branch Stream Valley Pk	Future	Investigate for future mgt
40	C&O Canal NP Goldmine Tract	Future	NPS is investigating methods and funding for the environmental assessments required as part of the decision making process for deer population mgt. in a national park.

Table 4. Numbers and Percentages of Deer Harvested in Montgomery County Programs Compared to Countywide Deer Harvest 2013-2014 season.

	totals	Antlerless	% antlerless
County Hunting harvest (DNR)	5,889	4,184	71.0%
Sharpshooting (M-NCPPC Parks)	473	416	87.9%
DNR Deer Management Permits (Mont. Co.)	321	297	92.5%
Total deer harvest for Montgomery County	6,683	4,897	73.3%
M-NCPPC Mont Co Parks program total	1039	925	89.0%
Dickerson -MC-DSW	55	53	96.4%
Seneca managed hunts (all)	356	255	71.6%
WSSC managed hunts (Mont Co only)	101	77	76.2%
Total Harvest from Mont Co Deer Program hunts	1,551	1,310	84.5%
Percentage of total county harvest	23.21%	26.75%	

Deer Population Management using Contraception

Contraception has the potential to be a useful tool in helping to address high deer populations in urban/suburban locations and other areas where the use of lethal methods is limited. Studies and testing of contraceptives for deer have been ongoing for many years. However, the development of effective drugs and cost effective methods of administering them to wild, free roaming deer have proven extremely difficult. In 2009 the U.S. Food and Drug Administration (FDA) approved a product called GonaContm, for use in free ranging white-tailed deer. GonaContm is an immunocontraceptive vaccine that limits the release of sex hormones causing deer to remain in a non-reproductive state as long as a sufficient vaccine level is present in the body. While this long awaited approval represents a step forward in deer contraceptives, GonaContm has significant limitations. It must be hand-injected, requiring each animal to be captured, and it must be re-administered every 2 to 5 years. For more information on this product and its potential applications see:

http://www.aphis.usda.gov/wildlife_damage/nwrc/research/reproductive_control/content/gonacon1rev_Updated%202008.pdf

Over the past year or so, a couple of experimental programs have been initiated in the Greater Washington area using surgical sterilization to permanently prevent reproduction in treated female deer. The method involves capturing deer and performing surgery to remove ovaries. The overall costs and efficacy of this method are being evaluated and will be reviewed by the DMWG.

Deer Management Recommendations for FY 2015

In accordance with the Comprehensive Management Plan for White-tailed deer in Montgomery County, Maryland, the DMWG recommends the following actions for FY 2015. Agencies that should take lead responsibility for each recommendation are listed in parenthesis after that action. The final decision to proceed with any recommendation is up to the lead agency or agencies and it is expected that appropriate public input will be considered.

Many recommendations are on-going or require multiple-years to be fully implemented thus there is considerable overlap in recommendations from year to year. It is expected that all actions will be done in cooperation with the DMWG.

- 1. Continue public education efforts.** This includes educating the public about deer issues, particularly on available non-lethal methods to reduce deer damage to personal property.
 - a. Continue the successful Homeowner Workshop Program. Update program and publicize better to increase number of programs. Coordinate workshops with DNR education efforts. (MNCPPC, Montgomery County Master Gardeners)
 - b. Continue efforts to educate the public about deer, deer impacts and remedies via the Internet, Educational DVDs, and County Cable TV. (Montgomery Soil Conservation District (MSCD), County Cable Montgomery [CCM], M-NCPPC)
 - c. Update the M-NCPPC deer website to include more detailed information regarding the County's fencing regulations and recommendations for fencing to reduce deer damage and consult with County Department of Permitting Services (DPS) to be sure this information is readily available to the public through their website and staff. (M-NCPPC)
 - d. The County Department of Health and Human Services (HHS) should continue their efforts to educate the public and doctors on the prevention, early detection and treatment of Lyme Disease. A continued effort to get educational materials to all doctors should be a priority. (HHS)
 - e. The County should expand its educational information on Lyme disease to include information on Integrated Pest Management (IPM) methods and products available to reduce ticks in the landscape. These include Tick Control System - www.tickboxtcs.com and Daminix Tick Tubes - www.ticktubes.com. (HHS, M-NCPPC, DMWG)
 - f. M-NCPPC should investigate efficacy and costs of utilizing the above mentioned tick reduction methods in parkland that has especially high levels of ticks. (M-NCPPC)
 - g. The County and State should update educational information to better inform county residents of options available to landowners and communities to reduce deer populations including the State and County regulations allowing the utilization of archery hunting. Archery hunting can be a safe and effective method of reducing deer populations where firearms are not appropriate. Improvements in archery equipment, including crossbows, have significantly improved ease of use.
 - h. MCPD and the Firearms Safety Committee (FSC) should continue to publicize the County Weapons Law. Informational brochures should continue to be distributed to all County businesses that sell hunting licenses. DED should inform county farmers of new opportunities that the changes allow. M-NCPPC should include this information on their deer website and in deer program press releases. Information can be found at: www.montgomerycountymd.gov/content/ded/agsservices/pdf/files/weapons_web.pdf (MCPD, FSC, DED, M-NCPPC)
- 2. Continue efforts to improve road fencing, signage and design to reduce deer-vehicle collisions.**
 - a. The Montgomery County Police Department (MCPD), Montgomery County Department of Transportation (MCDOT) and Maryland State Highway Administration (SHA), in coordination with the

DMWG, should continue to evaluate roadway DVCs and examine accident mitigation methods. (MCPD, DMWG, MCDOT, SHA)

- b. MCPD and MCDOT should continue to utilize variable message boards, when they are available, as a way to remind drivers about watching out for deer during Fall when the highest number of DVCs usually occur.
- c. A greater effort should be made by SHA and the Maryland Department of Transportation (MDOT) to implement a program to inspect and repair the wildlife fencing along the entire length of 270, 495, the newly opened Inter-County Connector (ICC) and other fenced State roads, at least once per year. Over time, tree falls, vandalism, erosion and other factors create breaks and holes in wildlife fencing placed along roads. Fences with holes can create a situation where deer that happen to wander through the hole become trapped on the road. (SHA, MDOT)
- d. MDOT should monitor DVCs along the new ICC and make adjustments as necessary to fencing, underpasses, access ramps, etc. to minimize DVCs. (MDOT)
- e. Keep current and, where possible, cooperate with other studies that investigate methods of reducing deer-vehicle collisions. (MCDOT, M-NCPPC, SHA, DNR,)
- f. Continue to work with appropriate agencies on new and retrofit road projects to better design roadways and especially bridges for wildlife passage. (MCDOT, SHA, M-NCPPC)

3. Continue to monitor progress in the development and use of fertility control methods to regulate deer populations.

- a. Continue to monitor on-going efforts at the National Institute of Standards and Technology (NIST) being conducted by The Humane Society of the U.S. as well as other study sites around the country. (DNR, DMWG)
- b. Continue to monitor progress and approval of other deer fertility control methods including surgical sterilization projects that are ongoing in Baltimore County, MD and Fairfax City, Virginia. (DNR, DMWG)

4. Continue to encourage more community involvement in deer management efforts.

In many cases it is incumbent upon a community to work together and address neighborhood concerns regarding deer. Several approaches to reducing deer damage to home landscaping and gardens may have a greater effect when applied on a community level. Neighbors or communities can work together in their use of fencing, vegetation management, and repellents. Adjustments to community covenants that reduce fencing restrictions or enactment of “no deer feeding” policies are examples of cooperative efforts. Communities, in many cases, may be better able than County or State agencies to fund and/or implement other local management efforts such as installation of fencing, localized efforts to reduce tick populations to prevent Lyme disease, a community based managed hunting program on private lands or working cooperatively with established hunting organizations to utilize archery hunting to reduce local deer populations. Any of these efforts will involve a high level of cooperation, organization and communication within the community as well as coordination with appropriate County or State agencies.

- a. The County and State should continue to provide information and assistance to communities that express a desire to address local deer impacts. These might include local public meetings, educational workshops, literature and recommendations on specific management efforts that could be undertaken by the community. DNR provides technical advice for communities on deer management issues. (M-NCPPC, DNR, Maryland Cooperative Extension (MCE))
- b. The Weapons Law Summary brochure and website should be updated by MCPD and the Firearms Safety Committee (FSC) and additional efforts made to publicize the recent reduction of both the State and County safety zone for archery from 150 to 100 yards. (MCPD, FSC, DMWG)

- c. Citizens can obtain a list of Deer Cooperators, businesses licensed by DNR to use non-lethal and lethal deer management techniques to help resolve deer problems, by contacting the Maryland DNR at 301-432-4307. (DMWG, DNR)
- d. Continue to promote the DNR website for available community-based deer management options at http://www.dnr.state.md.us/wildlife/Hunt_Trap/deer/deer_damage/ddmtintro.asp especially the publication **An Evaluation of Deer Management Options** by The Northeast Deer Technical Committee available on the website. (MCE, M-NCPPC, DNR)

5. Continue to encourage effective deer population management on private properties.

The vast majority of land in the County is private (>80%) and any effort to manage deer populations on these lands can only be undertaken by the landowners. Managing deer impacts countywide requires the cooperation of county agencies and private landowners. Parcels of land that are forested, in agriculture or slated for development all potentially support large deer populations that need to be managed.

Many landowners that do allow hunting on their property are not doing it effectively and would benefit greatly from reviewing the DNR publication, “Deer Hunting - a Valuable Deer Management Tool for Private Landowners”.

- a. The Department of Economic Development (DED) should continue their successful cooperative cool box program to assist farmers in storing, transporting, processing and donating to charity, deer harvested from agricultural lands. Efforts made to increase publicity, access, and hours of operation, and to make the process more user friendly should continue. Additional locations should be considered.(DED)
- b. DED has developed a revised survey for this year to again poll members of the agricultural community regarding the current status of crop damage caused by deer. The survey was last conducted in 2004. The survey is being disseminated through agricultural agencies and is available on DED’s website. Initial survey feedback indicates that deer are still having a significant impact on crop production, and efforts to this point may just be maintaining the status quo rather than reducing damage levels. (DED)
- c. Continue to promote a focus on the harvest of female deer to reduce deer populations. Farmers and other large landowners should refer to the DNR publication, “Deer Hunting - a Valuable Deer Management Tool for Private Landowners” to develop an effective deer management program on their property with a goal to reduce deer populations to 20 deer or less per square mile.

“A major goal of DNR's deer management changes is to continue to improve the quality of Maryland's deer herd. By encouraging antlerless deer harvest and restraining antlered buck harvest, populations will reach appropriate levels while the potential for mature antlered buck survival improves”. - DNR Annual Deer Report, 2014, Draft (DNR, DMWG, DED)

- d. M-NCPPC should continue to work with farmers growing crops on private land adjacent to parkland deer management sites, to coordinate their management efforts. Landowners should contact M-NCPPC at 301-962-1342 for more information. (M-NCPPC)
- e. Identify large parcels of private property in areas experiencing deer related impacts and reach out to investigate, address and encourage mitigation. This might involve partnerships between private and public landowners to allow effective management under current regulations. (DMWG, DED, Identified landowners)

6. Continue and expand deer population management on select State, County, and Federal lands.

Table 1 lists public land on which deer population management is currently being conducted and land on which the DMWG recommends deer management in the future. Decisions as to the type of population management implemented, the duration of the operation, and annual harvest goals should be decided by the appropriate agencies and DNR. The timing of implementation is subject to the resources and budget of

the agency managing the property. Budgets for FY15 will most likely limit which of the following recommendations can be implemented in the upcoming year.

- a. The Montgomery County Council has formally requested that the National Park Service (NPS) begin steps as soon as possible to address deer management in the Goldmine Tract of the C&O Canal Historic Park in Potomac, MD. The Park Service's response expressed agreement that the impacts to the adjacent community and the park resources were unacceptable, but that federal requirements represent a time consuming and costly process for implementing deer management in a national Park. Funding has been requested to begin the process but it is doubtful that this request will be provided in the foreseeable future. Several NPS policies are being reviewed that could reduce both the cost and time required for this action. Decisions on these changes are anticipated in the coming year.
- b. The Montgomery County Division of Solid Waste Services (DSWS) should continue and expand where possible deer population management efforts begun in 2011 on property they manage in the Dickerson area to help reduce impacts to local agriculture. See Map 2; Table 1, #29. (DSWS)
- c. M-NCPPC Montgomery Parks should continue ongoing deer population management programs adjusting methods and harvest goals as needed; and continue to expand these efforts, as budgets and staffing allow, into new areas to reduce deer impacts to park resources and adjacent property. Explore opportunities to work cooperatively with adjacent property owners or communities where joint efforts can benefit both the community and park resources. Refer to Map 2 and Table 3 for proposed management locations. (M-NCPPC)
- d. Continue to investigate all non-lethal and lethal methods that are appropriate for managing deer populations in smaller more urban parks and which provide the level of control and safety required. (DMWG, M-NCPPC)
- e. The Washington Suburban Sanitary Commission (WSSC) should continue current deer population management programs on their lands and continue to expand these efforts, as required to protect WSSC resources and adjacent property. (WSSC)
- f. Investigate a cooperative effort between M-NCPPC, WSSC and Avenel Country Club to conduct deer management on the combined adjacent properties managed by each in Potomac.

7. Additional recommendations.

- a. Develop a large animal composting program. This could possibly be done in conjunction with SHA and/or with other counties, some of which currently have composting facilities in operation. Cost savings to the county could be substantial over the current disposal methods. (MCPD – Animal Services Division)

Background - Each year thousands of deer and other large animal carcasses are picked up and disposed of from along County roads. The current method of disposal (rendering) is expensive and depends on a contractor that has given notice to the county that it may stop providing this service in the near future. This would leave the county in the unacceptable position of having no way to dispose of carcasses at all. Much work has been done in recent years on developing methods of composting large animal carcasses that are sanitary, effective and environmentally sound. Composting is currently being used in New York, Virginia, and more locally by the Maryland State Highway Administration (SHA). Developing such a program in the county would provide the additional benefits of being a more dependable and less expensive alternative of disposal.